PERLA SOUSI

Date/place of birth	9th August, 1984, Athens, Greece
Affiliation	Department of Pure Maths and Mathematical Statistics
	University of Cambridge
Current position	University Lecturer
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Fields of interest	Probability Theory; Stochastic Processes

EDUCATION

2011	PhD in Mathematics, University of Cambridge
2006-2007	ENS - INRIA, Paris, France
2006	Part III in Mathematics, University of Cambridge
2005	BsC in Mathematics, University of Patras, Greece

ACADEMIC POSITIONS

since 2014	Fellow of Emmanuel College
2014 – 2015	Research Associate in DPMMS, University of Cambridge
01/2012 – 06/2012	Postdoctoral researcher at MSRI, Berkeley
2011 – 2014	Junior Research Fellow of Emmanuel College
2011	Research Intern at Microsoft Research, Redmond, WA

AWARDS & GRANTS

2017 – 2021	Member of the ANR Research Project SWiWS "The Swiss Cheese and the Wiener Sausage". €220k
2018 – 2020	PI of the EPSRC New Investigator Award "Random walks on dynamic graphs". £114k

SUPERVISION OF PHD STUDENTS

since 01/2017	Sam Thomas "Mixing times for Markov chains", Univ. of Cambridge

SELECTED RECENT TALKS

12/2018	60th Birthday conference in honour of Amir Dembo, Stanford.
05/2018	Colloquium at Lancaster University, U.K.
11/2017	Northeast Probability seminar, New York.
09/2017	60th Birthday conference in honour of Russel Lyons, Tel Aviv.
06/2017	Plenary Talk at AoFA, Princeton University.
12/2016	Heat Kernels, Stochastic Processes and Functional Inequalities, Mathematisches Forschungsinstitut Oberwolfach.
09/2016	Probability seminar, IHES, France.

Further activities (selection)

since 2011	Interviewer for applicants to study Maths at Emmanuel College, Cambridge.
since 2011	Referee for Journal of Statistical Physics, Annals of Probability, Probability Theory and Related Fields, SODA et al.
05/2014	Program Committee member of RANDOM 2014
05/2017	co-organiser of the 5th Peter Whittle colloquium

Selected Publications

[1] M. Barlow, Y. Peres, and P. Sousi. Collisions of random walks. *Ann. Inst. Henri Poincaré Probab. Stat.*, 48 (2012), no. 4, 922–946.

[2] Y. Peres, A. Sinclair, P. Sousi, and A. Stauffer. Mobile Geometric Graphs: Detection, Coverage and Percolation. *Prob. Theory and Related Fields.* 156 (2013), no. 1-2, 273–305.

[3] Y. Peres and P. Sousi. Brownian motion with variable drift: 0-1 laws, hitting probabilities and Hausdorff dimension. *Math. Proc. Cambridge Philos. Soc.* 153 (2012), no. 2, 215–234.

[4] Y. Peres and P. Sousi. An isoperimetric inequality for the Wiener sausage. *Geom. Funct. Anal.*, 22(4):1000–1014, 2012.

[5] Y. Peres and P. Sousi. Mixing times are hitting times of large sets. *J. Theoret. Probab.*, 28(2):488–519, 2015.

[6] A. Drewitz, P. Sousi, and R. Sun. Symmetric rearrangements around infinity with applications to Lévy processes. *Probab. Theory Related Fields*, 158(3-4):637–664, 2014.

[7] Y. Babichenko, Y. Peres, R. Peretz, P. Sousi, and P. Winkler. Hunter, Cauchy rabbit, and optimal Kakeya sets. *Trans. Amer. Math. Soc.*, 366(10):5567–5586, 2014.

[8] P. Sousi and P. Winkler. Mixing times and moving targets. *Combin. Probab. Comput.*, 23(3):460–476, 2014.

[9] R. Pymar and P. Sousi. A permuted random walk exits faster. *ALEA Lat. Am. J. Probab. Math. Stat.*, 11(1):185–195, 2014.

[10] J. Miller and P. Sousi. Uniformity of the late points of random walk on $\mathbb{Z}_n^d$ for $d \geq 3$. *Prob. Theory and Related Fields.* to appear.

[11] Y. Peres and P. Sousi. Dimension of fractional Brownian motion with variable drift. *Probab. Theory Related Fields*, 165(3-4):771–794, 2016.

[12] Y. Peres, B. Schapira, and P. Sousi. Martingale defocusing and transience of a self-interacting random walk. *Ann. Inst. Henri Poincaré Probab. Stat.*, 52(3):1009–1022, 2016.

[13] Y. Peres, T. Sauerwald, P. Sousi and A. Stauffer. Intersection and mixing times for reversible Markov chains. *Electron. J. Probab.*, to appear.

[14] L. Addario-Berry, R. I. Oliveira, Y. Peres, and P. Sousi. Random walks colliding before getting trapped. *Electron. J. Probab.*, 21:Paper No. 42, 19, 2016.

[15] A. Asselah, B. Schapira and P. Sousi. Capacity of the range of random walk on $\mathbb{Z}^d$. *Trans. Amer. Math. Soc.* accepted.

[16] L. Boczkowski, Y. Peres and P. Sousi. Sensitivity of mixing times in Eulerian digraphs. *SIAM J. Discrete Math.* accepted.